NC/QC/YPD/2018-19/NR-C1 **Date: 18-01-2019**

## 1. TEST REPORT ON CEMENT:

**Sub**: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Construction of Shelter and Power Connection for Shredder in Near Railway Track.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Suresh. K, Bangalore.

### PHYSICAL TESTS ON CEMENT

Brand : ACC
Grade * : 53,
Type * : O.P.C

**TABLE 1.1:**

| SL No | Name of Test | Test Results | Requirements as per IS 8112-1989 |
|---|---|---|---|
| 1 | Initial setting time | **169 min** | Shall not be less than 30 min |
| 2 | Final setting time | **274 min** | Shall not be more than 600 min |
| 3 | Fineness (by dry sieving on IS 90 micron sieve) | **2.25 %** | Not to exceed 10.0% |
| 4 | Soundness test(by Le-Chatelier's method) | **2.11 mm** | Shall not be more than 10 mm |
| 5 | Compressive strength<br>a) 3 days (average of three results) | **29.04 N/Sq mm** | Shall not be less than 27 N/Sqmm |

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NC/QC/YPD/2018-19/NR-PCC1 **Date: 18-01-2019**

## 1. TESTING OF COARSE AND FINE AGGREGATES:

**Sub**: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Construction of Shelter and Power Connection for Shredder in Near Railway Track.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Suresh. K, Bangalore.

### 1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

| IS Sieve Size, mm | Percentage passing | Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing | |
|---|---|---|---|
| | 40 mm Sample | Single size | Graded |
| 40mm | **100.00** | 85-100 | 90 – 100 |
| 20mm | **94.35** | 0 -20 | 30- 70 |
| 10mm | **19.10** | 0 -5 | 10- 35 |
| 4.75mm | **2.95** | ------ | 0- 5 |

### 2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

| IS Sieve Size, mm | Percentage Passing | Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing | | | Remarks |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone -III | |
| 04.75 | **98.15** | 90-100 | 90-100 | 90-100 | The Sample Conforms to Grading **Zone-II** |
| 02.36 | **86.65** | 60-95 | 75-100 | 85-100 | |
| 01.18 | **61.90** | 30-70 | 55-90 | 75-100 | |
| 600.mic | **44.20** | 15-34 | 35-59 | 60-79 | |
| 300.mic | **20.75** | 5-20 | 8-30 | 12-40 | |
| 150.mic | **6.35** | 0-10 | 0-10 | 0-10 | |

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NC/QC/YPD/2018-19/NR-C2

Date: 24-01-2019

## 1. TEST REPORT ON CEMENT:

**Sub**: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Construction of Shelter and Power Connection for Shredder in Near Railway Track.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Suresh. K, Bangalore.

### PHYSICAL TESTS ON CEMENT

Brand : ACC
Grade * : 53,
Type * : O.P.C

**TABLE 1.1:**

| SL No | Name of Test | Test Results | Requirements as per IS 8112-1989 |
|---|---|---|---|
| 1 | Initial setting time | **171 min** | Shall not be less than 30 min |
| 2 | Final setting time | **258 min** | Shall not be more than 600 min |
| 3 | Fineness (by dry sieving on IS 90 micron sieve) | **2.04 %** | Not to exceed 10.0% |
| 4 | Soundness test(by Le-Chatelier's method) | **2.11 mm** | Shall not be more than 10 mm |
| 5 | Compressive strength<br>a) 3 days (average of three results) | **28.51 N/Sq mm** | Shall not be less than 27 N/Sqmm |

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**Page No. 1/1,**

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NC/QC/YPD/2018-19/NR-CA1

Date: 24-01-2019

## 1. TESTING OF COARSE AGGREGATES (20 mm):

**Sub**: Testing of Construction Materials.
{Project*: Construction of Shelter and Power Connection for Shredder in Near Railway Track.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Suresh. K, Bangalore.

**Table - 1.1 : SIEVE ANALYSIS :**

| IS Sieve Size, mm | Percentage passing | Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing | |
|---|---|---|---|
| | 20 mm Sample | Single size | Graded |
| 40 mm | **100.00** | 100.00 | 100.00 |
| 20 mm | **98.15** | 85-100 | 90 - 100 |
| 10 mm | **41.60** | 0 - 20 | 25 - 55 |
| 4.75 mm | **3.70** | 0 - 5 | 0 - 10 |

**TABLE 1. 2 :**

| SL No | Test conducted | Results | Requirements as per IS:383-1970 & Tests Conforms to IS 2386( Part I to IV) – 1963 ( Reaffirmed on 2002) |
|---|---|---|---|
| 1. | Flakiness Index | **22.04 %** | Not to exceed 25 % |
| 2. | Crushing value | **26.73 %** | Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces |

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NC/QC/YPD/2018-19/NR-SSM1 Date: 24-01-2019

## 1. TESTING OF STONE SAMPLE :

Sub: Testing of Size stone.
{Project*: Construction of Shelter and Power Connection for Shredder in Near Railway Track.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Suresh. K, Bangalore.
Technical Reference: IS 1121(Part 1) -1974 (R.A on 1998)

**Table 1.1 :**

| SL No | Details of Tests | Observed Value | Normal Values |
|---|---|---|---|
| 01 | Compressive Strength | **1319.00** Kg/ Sqcm | Not less than 1000.00 Kg/Sqcm |
| 02 | Water absorption,% | **0.41 %** | Not more than 2.0 % |

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NC/QC/YPD/2018-19/NR-S1

Date: 24-01-2019

**1. TEST REPORT ON REINFORCEMENT STEEL:**

**Sub**: Testing of Reinforcement Steel of diameter 10 and 12 mm **TMT Steel.**
{Project*: Construction of Shelter and Power Connection for Shredder in Near Railway Track.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Suresh. K, Bangalore.

**TABLE – 1**

| SL No | Details | For 10 mm | | For 12 mm | |
|---|---|---|---|---|---|
| | | **Test Results** | Min Req. as per IS 1786-2008 | **Test Results** | Min Req. as per IS 1786-2008 |
| 01 | Observed diameter of bar | **10.0 mm** | 10.0 mm | **12.0 mm** | 12.0 mm |
| 02 | Observed Wt/m Length **Kg/m** | **0.611** | 0.567 | **0.895** | 0.834 |
| 03 | Proof stress/Yield stress, fy , **N/mm$^2$** | **541.0** | 500.0 | **538.0** | 500.0 |
| 04 | Bend/ Re bend Test | **Ok** | --- | **Ok** | --- |
| 05 | Percentage of Elongation, % | **21.90** | 12.00 | **21.40** | 12.00 |
| 06 | Ultimate Tensile Strength **N/mm$^2$** | **627.0** | 545.0 | **633.0** | 545.0 |

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**NC/QC/YPD/2018-19/NR-CB1** **Date: 06-02-2019**

## 1. TEST REPORT ON CEMENT CONCRETE CUBES:

**Sub**: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Construction of Shelter and Power Connection for Shredder in Near Railway Track.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Suresh. K, Bangalore.

### RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

### CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : $M_{20}$

**TABLE 1.1:**

| Sl No | Location/ Identification* | Date of Casting* | Date of Testing | Age in Days | C/S Area in $mm^2$ | Maximum Load in K.N | Compressive Strength ($N/mm^2$) | Avg. Value |
|---|---|---|---|---|---|---|---|---|
| 1 | 001 | 30-01-19 | 06-02-19 | 08 | 22500 | 380 | 16.89 | **16.96** |
| | 002 | '' | " | '' | " | 375 | 16.67 | |
| | 003 | '' | " | '' | " | 390 | 17.33 | |

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NC/QC/YPD/2018-19/NR-CB1A

Date: 27-02-2019

## 1. TEST REPORT ON CEMENT CONCRETE CUBES:

**Sub**: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Construction of Shelter and Power Connection for Shredder in Near Railway Track.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Suresh. K, Bangalore.

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### RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : $M_{20}$

**TABLE 1.1:**

| Sl No | Location/ Identification* | Date of Casting* | Date of Testing | Age in Days | C/S Area in $mm^2$ | Maximum Load in K.N | Compressive Strength ($N/mm^2$) | Avg. Value |
|---|---|---|---|---|---|---|---|---|
| 1 | 001 | 30-01-19 | 27-02-19 | 28 | 22500 | 500 | 22.22 | **22.07** |
| | 002 | " | " | " | " | 485 | 21.56 | |
| | 003 | " | " | " | " | 505 | 22.44 | |

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